

## IMAGING SYSTEM WITH BUILT-IN DIAGNOSTICS

### ABSTRACT OF THE DISCLOSURE

5 An imaging system with built-in diagnostics and preferably implemented as an integrated system-on-a-chip (SOC) imaging system. According to one implementation of the present invention, the imaging system can be operated in two operating modes: a normal operating mode and a special diagnostic mode. While running in the diagnostic mode, the imaging system can be configured to detect manufacturing defects. The imaging system can be further configured to compensate for certain types of manufacturing defects. While running in the diagnostic mode, the imaging system (1) identifies pixels that function incorrectly and (2)  
10 creates a record of such pixels. In the normal operating mode, the imaging system can use the record to compensate for the missing or incorrect data from these defective pixels during real-time image processing. The present invention simplifies testing of imaging systems and/or image sensors. It also increases manufacturing yield and, therefore, results in lower per-unit manufacturing cost.